

**Vraag 1 / Question 1**

Waarvoor staan die volgende simbole: / *For what do the following symbols stand:*

- a) konstante simbole / *constant symbols*, which stand for objects; [1]
- b) predikaat simbole / *predicate symbols*, which stand for relations; and [1]
- c) funksie simbole / *function symbols*, which stand for functions. [1]

**Vraag 2 / Question 2**

Definieer 'n interpretasie. / *Define an interpretation.* [8]

Each model includes an interpretation that specifies (1) exactly which objects (1), relations (1) and functions (1) are referred to (1) by the constant (1), predicate (1), and function symbols (1).

**Vraag 3 / Question 3**

Gee 'n Eerste-orde Logika uitdrukking vir die volgende familie verwantskap: / *Give a First-order Logic expression for the following family relationship:*

A sibling is another child of one's parents. [5]

$\forall x, y \text{ Sibling}(x, y) \Leftrightarrow x \neq y \wedge \exists p \text{ Parent}(p, x) \wedge \text{Parent}(p, y) .$

Totaal [16] / *Total [16]*